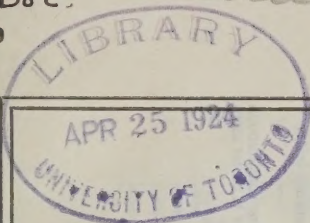


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THE FINCH DAIRY STATION

A Further Report of Progress

DOMINION OF CANADA
DEPARTMENT OF AGRICULTURE

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THE
DAIRY AND COLD STORAGE BRANCH
J. A. RUDDICK, COMMISSIONER

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GOVERNMENT DAIRY STATION, FINCH, ONT. 1923.

LINE FENCE

COVERED DRIVEWAY
FOR WHEY AND SKIM MILK
DELIVERY

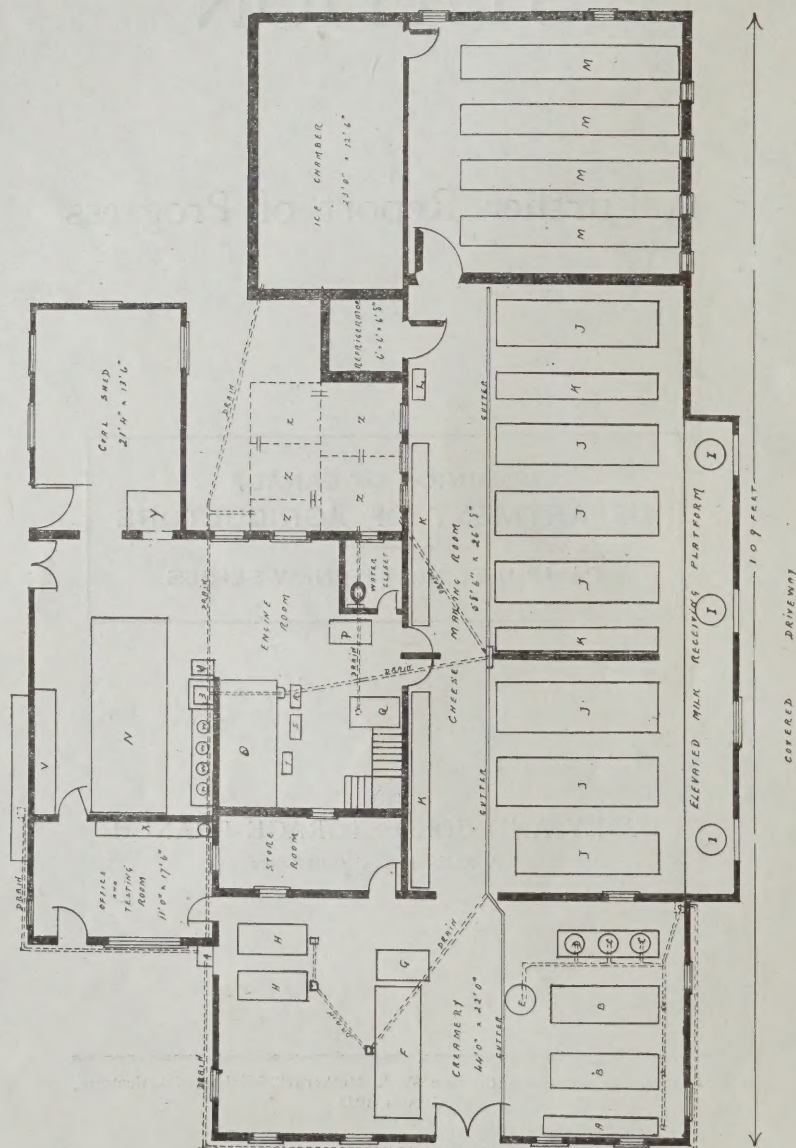


FIG. 1

FLOOR PLAN

THE FINCH DAIRY STATION

A FURTHER REPORT OF PROGRESS

A report of the work of the Finch Dairy Station covering the years 1912-1919 was published in 1920 as Bulletin No. 55 of the Dairy and Cold Storage series. The following paragraphs are quoted from that report:

"ORIGIN"

"The Finch Dairy Station was established in the year 1912, when the premises and good will of two small competing cheese factories located within a mile of each other were purchased by the department, and a new building erected in the village of Finch, Stormont county, Ontario.

OBJECTS

The objects aimed at in establishing this Station were to provide facilities that would enable the Dairy Branch to,

- (a) control and operate a model combined cheese factory, creamery, and milk and cream shipping station;
- (b) demonstrate the advantages of a well-conducted factory, equipped to take advantage of the highest market for cheese, butter, milk or cream;
- (c) encourage the production of winter milk;
- (d) conduct experiments and investigations relating to the manufacture of butter and cheese;
- (e) demonstrate new processes and to try out new appliances;
- (f) demonstrate the value of the cool curing of cheese; and
- (g) study the economics of dairy factory operation.

Being responsible for the successful operation of this factory conducted on strictly commercial lines, the Dairy Branch is brought into close contact with the problems which confront other manufacturers of cheese and butter throughout the country."

There has been considerable development in dairying in the Finch district since 1920 and it has been necessary to enlarge the building to handle the milk which is now being offered to the Station.

In 1922 a new creamery room 46 x 23 feet was added and the old creamery room was added to the cheesemaking space. Two new cheese vats were installed which increased the capacity for cheesemaking to 47,000 lbs. milk daily.

In 1923 a second and larger boiler was installed and a new office and coal shed were added.

Fig. 1 shows the floor plan of the building and the present arrangement of the equipment.

STATEMENT OF TWELVE YEARS' BUSINESS

Table I shows in detail the business of each of the twelve years 1912 to 1923 inclusive:—

Year	Milk received	Cheese manu- factured	Butter manu- factured	Butter fat in cream sold	Whole milk sold
	lbs.	lbs.	lbs.	lbs.	lbs.
1912.....	2,069,281	186,938	3,816	.....	.....
1913.....	2,720,028	129,811	43,268	5,351	.....
1914.....	2,356,202	131,906	21,247	14,207	60,800
1915.....	2,418,010	159,446	10,909	13,486	86,067
1916.....	2,486,380	153,574	117	16,317	334,703
1917.....	2,807,885	145,108	.....	23,718	577,472
1918.....	3,859,217	45,898	.....	86,572	890,970
1919.....	5,480,816	38,059	.....	149,665	983,867
1920.....	5,570,545	73,807	20,859	137,528	438,725
1921.....	6,586,485	145,101	33,103	146,184	11,580
1922.....	8,781,879	45,244	50,389	245,789	33,965
1923.....	8,213,531	148,479	20,302	210,579	107,156

Year	Value 100 lbs. milk to patrons	Total money received	Paid patrons	Manu- facturing commis- sion	Skim milk sold
	\$	\$	\$	\$	\$
1912.....	1.11	25,593 42	23,304 49	2,288 93	.....
1913.....	1.04	32,441 69	28,241 73	3,189 96	.....
1914.....	1.19	31,337 83	28,108 74	2,772 59	.....
1915.....	1.35	36,350 89	32,640 85	3,209 88	.....
1916.....	1.60	44,240 16	39,779 88	3,135 92	.....
1917.....	2.00	61,289 35	56,173 46	3,464 14	.....
1918.....	2.145	90,686 03	82,785 69	5,516 92	.....
1919.....	2.492	146,351 49	136,540 56	7,945 54	.....
1920.....	2.492	148,748 18	138,943 01	8,752 66	.....
1921.....	1.612	117,266 79	106,166 51	10,781 17	.....
1922.....	1.439	142,928 53	126,411 76	16,037 04	142 07
1923.....	1.625	149,598 14	133,539 37	15,400 35	192,39

MILK SUPPLY

It will be seen from Table I that there has been a very marked increase in milk production in the Finch district during the past five years. In the spring of 1923 the management decided it would be practically impossible to handle all the milk that would be offered to the Station and it was announced that after April 1st of that year, milk would be received only from those who supplied milk during the summer months of 1921. This reduced the number of patrons during the summer of 1923 to 119. During the winter months the Station has been open to all comers.

WINTER MILK PRODUCTION

Table II following shows the maximum number of patrons supplying milk during the summer and winter months during the years 1915 to 1923 inclusive;—

TABLE II

Number of Patrons during summer and winter months.

Year	Maximum number of patrons	
	Summer months	Winter months
1915.....	55	36
1916.....	54	46
1917.....	65	48
1918.....	77	80
1919.....	104	122
1920.....	112	124
1921.....	119	164
1922.....	156	190
1923.....	119	194

It is seen that since 1917 there has been a rapid increase in the number of patrons supplying milk during the winter months, and there has been an even greater increase in the quantity of milk supplied. This is shown in Table III which gives the quantities of milk received during the months of December to March inclusive of each winter since 1912-13.

TABLE III

Milk received, December to March inclusive.

Year	lbs.
1912-13.....	208,937
1913-14.....	329,290
1914-15.....	328,356
1915-16.....	396,054
1916-17.....	214,358
1917-18.....	437,582
1918-19.....	594,256
1919-20.....	861,873
1920-21.....	1,029,821
1921-22.....	1,404,739
1922-23.....	1,731,869

The production during the winter months of 1922-23 shows an increase of 828% as compared with the winter months of 1912-13.

INCREASED MILK PRODUCTION BY INDIVIDUAL PATRONS.

Table IV shows the production of thirty patrons who have supplied milk during the years 1913-1916-1918-1920 and 1922.

TABLE IV

Patron's number	1913	1916	1918	1920	1922
	lbs.	lbs.	lbs.	lbs.	lbs.
1.....	56,238	41,250	67,312	71,062	66,252
2.....	56,642	49,196	48,662	64,728	77,857
3.....	39,057	24,035	34,739	31,692	34,297
4.....	57,382	47,255	51,896	39,564	30,647
5.....	48,330	27,485	23,537	17,660	28,835
6.....	71,117	52,456	74,436	88,996	113,336
7.....	51,507	35,063	31,735	27,160	45,933
8.....	29,631	34,283	44,157	57,741	74,343
9.....	62,275	28,316	73,603	68,786	84,349
10.....	105,983	129,003	156,017	140,962	127,856
11.....	12,743	24,024	30,228	31,809	48,666
12.....	15,059	15,498	21,933	19,331	31,709
13.....	53,953	77,552	68,181	67,310	107,263
14.....	51,594	48,741	50,315	46,144	56,002
15.....	33,230	33,344	45,088	38,752	36,222
16.....	103,331	67,402	109,639	99,672	102,329
17.....	35,475	2,876	22,848	99,864	158,161
18.....	76,734	69,157	73,255	80,282	130,844
19.....	56,151	52,142	49,438	57,028	77,560
20.....	85,806	89,684	87,570	79,029	86,823
21.....	57,086	55,439	62,975	56,689	87,885
22.....	49,027	37,171	38,169	35,846	53,071
23.....	57,654	68,966	71,813	82,957	88,578
24.....	57,614	60,668	69,198	80,011	102,063
25.....	22,654	36,710	41,094	38,314	49,954
26.....	33,021	49,007	40,673	33,112	50,558
27.....	14,900	22,031	1,311	52,498	74,768
28.....	42,693	55,367	49,642	47,253	67,336
29.....	60,592	50,578	61,436	52,043	42,877
30.....	26,355	28,268	36,430	36,887	51,141
	1,523,834	1,412,967	1,637,330	1,743,182	2,187,542

The total production of these thirty patrons during 1922 shows an increase of forty-three per cent as compared with their total production during 1913, while the average time during which milk was supplied to the Station by the thirty patrons was $11\frac{1}{2}$ months during 1922 as compared with 9 months during 1913.

MANUFACTURING CHARGES

Manufacturing charges have been increased from time to time as shown in Table V. The Department has charged about the same prices as other factories in the locality.

TABLE V

Rates charged during different years.

Year	For manufacturing		For handling and shipping	
	Cheese	Butter	Milk per 100 lbs.	Cream per lb. fat
	cts.	cts.	cts.	cts.
1912.....	1 $\frac{1}{2}$	3		
1913.....	1 $\frac{1}{2}$	3		3
1914.....	1 $\frac{1}{2}$	3	10	3
1915.....	1 $\frac{1}{2}$	3	10	3
1916.....	1 $\frac{1}{2}$	3	10	3
1917.....	1 $\frac{1}{2}$	3	10	3
1918.....	2	4	12	4
1919.....	2 $\frac{3}{8}$	5	12	4
1920.....	2 $\frac{1}{2}$	5	12	4
1921.....	2 $\frac{1}{2}$	5	12	4
1922.....	2 $\frac{3}{8}$	6	12	5
1923.....	2 $\frac{3}{8}$	6	12	5

MARKETING FACILITIES

As the Station is located at the crossing of the Toronto-Montreal line of the Canadian Pacific and the Ottawa-New York Branch of the New York Central Railways, the facilities for shipping milk and cream early in the day to Montreal, Ottawa and different points in the United States are excellent. It is possible to market the milk in whatever form is for the time being most profitable, whether as whole milk, sweet cream, cheese or butter. Ordinarily, the sale of sweet cream is most profitable and the patrons of the Finch Station are fortunate in that a considerable portion of their milk can be marketed in this form.

PREMIUM PAID AT FINCH

The following statement shows the average net prices paid per hundred pounds of milk and the premium received by the Finch patrons per hundred pounds of milk and in dollars per year for the different years. The rates per hundred pounds of milk used as bases of comparison are, for the years 1917 to 1922 inclusive, the average net prices paid by Ontario cheese factories during the respective years as shown by the reports of the Statistics Branch, Department of Trade & Commerce. The rate per hundred weight of milk used as a basis of comparison for 1923 is that of an average Ontario cheese factory which operated about eight months.

TABLE VI

Year	Total Lbs. milk	Finch price per 100 lbs.	Average Ontario price per 100 lbs.	Premium	
				per 100 lbs.	For Year
		\$	\$	cts.	\$
1917.....	2,807,885	2.000	1.744	25.6	7,188 18
1918.....	3,859,217	2.145	1.837	30.8	11,886 38
1919.....	5,480,816	2.492	2.227	26.5	14,524 16
1920.....	5,570,545	2.492	2.174	31.8	17,714 33
1921.....	6,586,485	1.612	1.378	23.4	15,412 37
1922.....	8,781,879	1.439	1.233	20.6	18,090 67
1923.....	8,213,531	1.625	1.525	10.0	8,213 53
Total.....	41,300,358				93,029 62

During the seven years \$93,029.62 were distributed among the patrons over and above what they would have received if paid at the average price paid for cheese milk in Ontario, or an average yearly premium to the patrons of the Station of \$13,289.94.

A greater profit, the amount of which cannot be calculated, has been derived from the increased milk production, particularly during the winter months. Increased production followed good management at the factory and confidence in having some means of marketing milk during twelve months in each year.

The operation of the Finch Dairy Station on a commercial basis has demonstrated among other things that an increased output means lower manufacturing costs and permits of dual equipment being installed without unduly increasing the overhead charges. The dual equipment enables producers to reap the advantage from turning out either butter or cheese, whichever happens to be the more profitable for the time being. It is possible to operate the large factory continuously throughout the year and thus encourage winter dairying.

In considering the economics of factory operation in relation to size of output, the cost of hauling milk must be taken into consideration. It follows that larger factories are practicable in districts where there is a heavy production of milk than in those sections where dairy farming is not followed on so large a scale. The Finch Dairy Station is surrounded by a good milk producing country. the bulk of the milk is drawn during the summer months from within a radius of three miles.

The Finch Dairy Station has been useful as a place for trying out new processes and apparatus as well as for conducting practical experiments, etc.

It has been demonstrated also in the operation of the Station that a Government establishment may be conducted with profit..